2018-20 Executive Progress Report

Commonwealth of Virginia
Secretary of Transportation

Department of Transportation

At A Glance

VDOT will plan, deliver, operate and maintain a transportation system that is safe, enables easy movement of people and goods, enhances the economy and improves our quality of life.

Staffing: 7381 Salaried Employees, 0 Contracted Employees, 7735 Authorized, and 571 Wage Employees.

Financials: Budget FY 2019, $6,795.40 million, 0.59% from the General Fund.

Trends:
- ↑ Highway system assets continue to age
- ↑ Customer base continues to grow
- ↑ Generational impact on transportation systems
- ↑ Advances in technology create opportunities

Legend: ↑ Increase, ↓ Decrease, → Steady

Key Perf Areas:
- ↓ Traffic Crash Deaths
- ↑ Bridge condition
- ↑ Interstate pavement condition

Productivity:
- → On-time project delivery

Legend: ↑ Improving, ↓ Worsening, → Maintaining

For more information on administrative key, and productivity measures, go to www.vaperforms.virginia.gov

Background and History

Agency Background Statement

VDOT's mission is to plan, deliver, operate and maintain a transportation system that is safe, enables easy movement of people and goods, enhances the economy and improves our quality of life.

Our mission statement emphasizes four key performance areas - Plan, Deliver, Operate, and Maintain, and we have added a fifth area – Support - to cover the administrative areas that enable our staff to carry out our mission effectively. We structure our Biennial Strategic Plan based on the goals we have established for each of these performance areas.

While the methods of how we carry out our duties have evolved, these goals continue to represent the core of our business since the Department of Highways was created in the early 1900s.

Our plans continue to focus on:

- CORE PERFORMANCE: Meeting citizen expectations in planning for future transportation needs, delivering projects and services, operating and managing the system, maintaining our assets, maximizing the value of our investments, and being good financial stewards;
- TRANSFORMATION: Assessing opportunities and implementing methods to improve operations and delivery of services, while validating what services we should deliver;
- INNOVATION: Maintaining Virginia's commitment to be a national transportation leader by promoting smart, innovative, customer-oriented transportation solutions that have a positive impact on our citizens and customers.

The people of VDOT are the key to the successful delivery of Virginia's transportation program. In our efforts, the Governor and Secretary of Transportation have challenged us to plan for the future and to continue thinking and acting like a business.

Virginia is one of the best states in the country for citizens to live, work, operate a business, attend school, and to visit. Planning, delivery, operation and maintenance of our transportation infrastructure are essential to preserve that high living standard and enhance the Commonwealth's economic prosperity and durability.

We will “Keep Virginia Moving” through active engagement of stakeholders, citizens and employees, smart decision making, and efficient execution of our plan.

Major Products and Services

VDOT is responsible for oversight of all of the commonwealth’s approximately 128,500 lane miles of pavement and 21,100 bridges and structures, and directly maintains the majority of the roadways and structures. Major products and services can be categorized into the following focus areas:

- **Planning the transportation system**: Includes monitoring existing conditions; forecasting future growth; engaging stakeholders through Metropolitan Planning Organizations (MPO), Planning District Commissions (PDC) and local governments; identifying needs; and functions working with the Office of Intermodal Planning and Investment (OIPI) to perform short and long range planning and prioritizing, and programming.
- **Delivering the transportation system**: Includes preliminary engineering (project scoping, evaluation of environmental impacts, obtaining comments, developing plans, specifications and estimates); right-of-way acquisition; and construction project activities (mobilization, maintenance of traffic, construction and inspection).
- **Operating the transportation system**: Includes signs, signals, roadway markings, guardrails and other highway assets; integrated corridor management; integration of system performance and safety data; Intelligent Transportation Systems; Park and Ride intermodal facilities; tunnel and moveable bridges management; traveler information and support systems; and incident management.
- **Maintaining the transportation system**: Includes planning and budgeting for preventative maintenance; inspection activities; activities to improve or rehabilitate pavements and bridges; upkeep of roadside assets; roadway clearance (e.g., clearance of snow, trees, rocks, debris); and ensuring the requisite manpower, equipment and tools are readily available to execute the work.
- **Supporting the agency and the public we serve**: Includes research and innovations in the field of transportation; collaborations with and support to localities, regional transportation authorities, and other public entities; communications; customer-facing interactive information technology; and responding to citizens’ needs and inquiries, including through local offices (VDOT Residencies) and VDOT’s Customer Service Center.

Customers

Customer Summary

Weldon Cooper Center estimates Virginia’s current population as almost 8.5 million and forecasts Virginia’s 2030 population to grow to about 9.5 million. This type of change typically impacts the number of licensed drivers, registered vehicles, and vehicles miles traveled which increases demand for our products and services. However, the future use of vehicles and consumption of gasoline, and the impact on gasoline sales based revenues, is unknown.

Customer Table

Predefined Group	User Defined Group	Number Served Annually	Potential Number of Annual Customers	Projected Customer Trend
Resident	Virginia residents	8,400,000	9,500,000	Increase
Local or Regional Government Authorities	Independent cities - number being served at any point in time may vary	39	39	Stable
Local or Regional Government Authorities	Counties - number being served at any point in time may vary	95	95	Stable
Federal Agency	Federal government - number of federal agencies being interacted with at any point in time may vary	1	1	Stable

Finance and Performance Management

Finance

Financial Summary

The Virginia Department of Transportation’s funding comes from several sources of dedicated revenue. Federal revenues have been the largest single source of funding to the highway construction program for several years. The 1986 Special Session of the Virginia General Assembly created the Transportation Trust Fund (TTF). Until the TTF, there was only one fund, the Highway Maintenance and Operating Fund (HMOF), into which all transportation revenues were deposited. The TTF is distributed among the modes of transportation and within those modes according to the Code of Virginia (the modes include roads, mass transit, ports, and airports).

Funding for transportation was addressed during the 2013 General Assembly Session by House Bill (HB) 2313 (Chapter 766). The revenues generated by HB 2313 brought renewed financial investment for Virginia’s transportation program. Significant efforts are focused on pavement rehabilitation. HB 2313 also generated additional revenues in Hampton Roads and Northern Virginia to address the special transportation needs of those areas. Implementation of these new revenues has required an enhanced partnership with local governments to deliver much needed transportation projects. Though revenues have not met the initial expectations, the additional funds have allowed for investments to address major repairs as well as new capacity.

HB 1887 (Chapter 684, 2015) modifies how the Commonwealth distributes transportation revenue to maintain a state of good repair. The

Commonwealth Transportation Board (CTB) will prioritize funding for state of good repair work based on needs. Additionally, the SMART SCALE program was developed for HB 2 (Chapter 726, 2014) and will prescribe the projects that will be eligible for the distribution of high priority project funding statewide and for the district grant program. Together, HB 2 and HB 1887 enhance transparency of the funding process and improve the commonwealth's ability to fund the right projects generating the greatest benefit.

This legislation replaced a 30-year-old funds distribution formula put in place by special session legislation in 1986. The new formula distributes funding as follows:

- State of Good Repair of structures and pavement – 45 percent
- High-Priority Projects Program for key statewide needs – 27.5 percent
- Highway Construction District Grant Programs – 27.5 percent

Fund Sources

Fund Code	Fund Name	FY 2019	FY 2020
01000	General Fund	$40,000,000	$40,000,000
04010	Highway Federal	$1,127,144,155	$1,077,251,864
04014	Federal Garvee-Prin & Int	$117,188,318	$123,804,416
04100	Hwy Maintenance & Operating Fd	$2,473,917,840	$2,502,658,951
04220	Transportatn Partnrshp Opp Fd	$696,222	$697,505
04314	I-66 Outside Beltway Concess	$503,919,450	$212,174,466
04362	Powhite Revenue Fund	$8,513,285	$8,513,285
04363	Powhite Maint Replacmnt Fund	$2,486,715	$2,486,715
04461	I-66 Itb Construction	$9,740,193	$8,880,023
04462	I-66 Itb Revenue Fund	$15,576,474	$27,304,978
04471	I-64 Express - Construction	$1,496,394	$1,637,130
04472	I-64 Express - Revenue Fund	$913,606	$0
04500	Va Trans Infrastructure Bank	$435,153	$437,719
04710	Transportation Trust Fund	$935,946	$967,830
04720	Highway Construction Fund	$1,355,406,918	$1,098,186,778
04730	Priority Transportation Fund	$54,800,000	$71,986,796
04760	Toll Facilities Revolving Fund	$36,150,000	$6,000,000
04766	Violation Enforcement Sys	$0	$6,150,000
04769	Smart Tag	$0	$24,300,000
07191	Cap Proj Rev Bds Constn	$110,500,000	$70,000,000
07194	Cap Proj Rev Bnds P&I	$181,032,759	$181,494,609
07201	Garvee - Construction Fund	$85,693,244	$101,205,768
07581	Rt 58 - Construction Fund	$8,200,000	$151,008,817
07584	Rt 58 - Interest & Principal	$2,218,195	$20,355,478
07601	Nvtd - Construction Fund	$15,000,000	$15,000,000
07604	Nvtd - Interest & Principal	$11,181,526	$1,414,146
07614	Oak Grove Cnntr & Prnpl	$1,577,771	$1,593,244
07754	Rt 28 - Interest & Principal	$8,639,519	$8,639,519
07822	Coleman Bridge - Revenue Fund	$2,605,800	$2,609,399
07823	Colemanbrdge Maint Replace Fnd	$200,000	$200,000
07824	Coleman Br - Interest & Prinpl	$3,194,200	$3,190,600
09800	Nvta Fund - 2013 Session	$280,400,000	$272,600,000
09820	Hampton Rds Fund-2014 Session	$191,100,000	$194,000,000
09998	Ded Spec Rev - Budgetary Only	$136,900,000	$137,800,000
10001	Federal Trust - Transportation	$7,631,698	$7,631,698
13021	Build America Bd Fd Nvtd	$0	$0
13022	Build America Bd Fd Cpr	$0	$0

Revenue Summary

The Commonwealth Transportation Fund receives dedicated state and federal revenues. Estimated revenue for the fund provides for allocations in the Six-Year Financial Plan adopted by the CTB. The plan provides allocations for Virginia's transportation program. The adopted budget of the CTB for the Commonwealth Transportation Fund includes the Transportation Trust Fund distribution to each of the modes: highways, transit, ports and airports.

The Motor Fuels Tax in Virginia is now a Sales Tax, collected at 5.1% on gasoline and 6% on diesel. Beginning in FY 2019, this revenue is distributed accordingly: 80% to the HMOF, 11.3% to the TTF, 3.7% to the Commonwealth Mass Transit Fund, 4% to the Priority Transportation Fund (PTF), and 1% for the Department of Motor Vehicles for administering the collection.

Other sources of revenue were also altered by HB 2313 (Chapter 766, 2013) to provide for additional revenue, with new options to help with phasing out the reliance on fuel tax revenue over time. The Retail Sales and Use Tax was increased statewide by 0.3%, with the increase dedicated to transportation. The HMOF receives 0.175% of the 0.3% increase with the remainder provided for intercity passenger rail and mass transit. There was also an incremental sales tax commitment to transportation from the current 0.5% to 0.675% over four years. This incremental commitment was frozen at 0.1% with the increase in the Sales Tax on gasoline that occurred on January 1, 2015. These additional funds are dedicated to the HMOF. With these increases, the Retail Sales and Use Tax becomes the largest state revenue source for transportation.

The Motor Vehicle Sales and Use Tax was increased from 3.0% to 4.0% effective July 1, 2013, with additional incremental increases through FY 2017 to reach 4.15%. All of the revenue generated by this increase is dedicated to the HMOF. The Motor Vehicle License Fee ($40.75) also has components that are deposited into the HMOF ($26.00) and TTF ($3.00). The TTF also receives 0.5% of the 5.3% State General Sales and Use Tax. Other state revenue sources that make up the transportation budget include: general fund appropriations for specific purposes, toll revenues from specific toll roads, local contributions for specific purposes, and bonds or debt.

By law, these resources must be used to finance the following activities (in order): debt service, support to other state agencies, highway maintenance and operations (including payments to localities), administrative and support services, planning and research, environmental monitoring and compliance, and finally, construction.

Performance

Performance Highlights

Encouraging trends continue to be seen for Virginia's highways in key areas of performance: bridge condition; pavement condition; roadway safety; and on-time/on-budget.

Bridge Condition: Condition is reported in terms of structure ratings based on rigorous inspections. VDOT's statewide structure condition target is that at least 95.5 percent of the commonwealth's approximately 21,100 structures (bridges and large culverts) are not rated structurally deficient.

- Bridge condition (all structures): Statewide bridge condition was 93.8% in FY2015 and has improved to 96.0% in FY18
- With at least 21,100 structures in the statewide inventory, a change of 1% represents a net improvement of at least 211 structures

Pavement Condition: For assessment use, VDOT measures pavement condition using the Critical Condition Index (CCI), and CCI ratings run from "0" for very poor to "100" for excellent condition. VDOT's target for interstate highway and primary roadway pavement condition is that at least 82 percent of lane miles are rated fair or better, while eliminating road segments with a "35" CCI rating or less. VDOT's target for secondary road condition is 65 percent rated in fair or better condition. The following results are from the FY2018 pavement condition survey:

- Interstate: 90.9%
- Primary: 84.8%
- Secondary: 60.3%

Roadway Safety

- The annual number of traffic crash deaths decreased by about 20% from 2007 (1,026) to 2018 (819), but deaths have increased four of the last five years (2018 down 3% from 2019). The number of traffic crash deaths and serious injuries, along with the rate of deaths and serious injuries based on traffic volumes measured by vehicle miles traveled (VMT), is a function of many components including the traffic volume, the number of licensed drivers, and the number of registered vehicles.
- VDOT continues to focus on funding and delivering proactive safety projects under programs such as the Highway Safety Improvement Plan (HSIP) and Strategically Targeted Affordable Roadway Solutions (STARS) program.
- Safety criteria has been factored into the SMART SCALE [House Bill 2(2014)] selection process for projects within the Six-Year Improvement Program, as adopted by the Commonwealth Transportation Board on June 14, 2016.

On-Time and On-Budget

- With the exception of one year (FY 2011), goals for on-time delivery of highway projects have been achieved since FY 2007. The current goal is that 77% of projects will be delivered by their originally scheduled completion date.
- During this same time period, on-budget project delivery goals have also been met. The current goal is that 85% of projects will be completed within budget.

Selected Measures

Measure ID	Measure	Alternative Name	Estimated Trend
50160404.001.001	Number of traffic crash related deaths on Virginia roadways	Traffic Crash Deaths	Worsening
50160405.001.004	Percentage of statewide structures rated in good or fair condition.	Bridge condition	Improving
50160401.001.002	Percentage of interstate roadway pavement lane miles rated in fair or better condition	Interstate pavement condition	Improving
50160402.001.002	Percentage of primary roadway pavement lane miles rated in fair or better condition	Primary pavement condition	Improving
50160403.001.002	Percentage of secondary roadway pavement lane miles rated in fair or better condition	Secondary pavement condition	Maintaining
M501SA13005	Percentage of due projects delivered by their original specified completion date	On-time project delivery	Maintaining

Key Risk Factors

Several factors will have a significant impact on the agency over the next four years.

Customers: Weldon Cooper Center estimates Virginia's current population as 8.4 million and forecasts Virginia's 2030 population to be 9.5 million. This type of change typically impacts the number of licensed drivers, registered vehicles, and vehicles miles traveled which increases demand for our products and services. However, the future use of vehicles and consumption of gasoline, and the impact on gasoline sales based revenues, is unknown.

Congestion: While the vast majority of the state roadway system remains uncongested most of the time, recurring congestion continues to be a problem in urbanized areas during peak travel periods. As economic conditions improve, roadway use and associated congestion typically increases as well.

Asset Condition: VDOT continues to maintain and improve roadway pavement and bridge condition. However, roadways and bridges continue to need regular inspection, repair and replacement, and day-to-day wear and tear will increase as the number of vehicles increase and the population grows. Funding to address the needs of special assets (tunnels, high profile bridges, etc.) as they mature, and the need of the pavement on our secondary road system, is key to preserving our highway infrastructure.

Weather-related Events: VDOT plans for a normalized level of expenditures related to snow and other weather events and also for alternate scenarios. However, significant weather events can cause unanticipated spending which negatively impacts funding available for other highway work.

Workforce: VDOT works to mitigate the potential impact of the 16.1% (July 1, 2019) of the classified workforce currently eligible to retire using programs focused on core development, job skills training, and leadership skills enhancement, in conjunction with strategies to retain key talent.

Transportation Revenue Sources: Though actions in 2013 brought a substantial update to revenues available for transportation, the continued reliance on fuel tax revenue is of concern given vehicle fuel efficiencies. Continued, sustainable revenue sources will be imperative to keep up with growing costs of maintaining the current highway network and addressing capacity issues, where needed.

Technology and Innovation: Technology is changing rapidly which can place a large demand on staff, funding, and information security requirements.

Agency Statistics

Statistics Summary

The following statistics provide a snapshot (as of June 20, 2019) of the magnitude of VDOT operations:

Statistics Table

Description	Value
Number of VDOT-managed highway projects due for completion in FY2019	275
Value of VDOT-managed highway projects due for completion in FY2019 ($M)	990
Number of SMART SCALE projects due for completion in FY2019	12
Value of SMART SCALE projects due for completion in FY2019 ($M)	16

Management Discussion

General Information About Ongoing Status of Agency

The Department continues to emphasize efforts to plan, deliver, operate and maintain a transportation system that is safe, enables the easy movement of people and goods, enhances the economy and improves our quality of life in Virginia.

We remain diligent in preserving the condition of our key infrastructure assets such as pavement and bridges. House Bill 1887 (2015) dedicated 45% of construction revenues to "State of Good Repair," and VDOT has made a commitment to maintain Virginia's highway assets at a specific performance level. We will develop plans for routine and capital repair and replacement of major highway assets that involve significant and higher than normal costs.

There has been a paradigm shift in how transportation funding decisions are made. Starting in FY2016, the Commonwealth has utilized a process for identifying and prioritizing transportation projects as called for by Section 33.2-214.1 of the Code of Virginia -- a process that ensures that limited tax dollars are invested in the right transportation projects to meet the critical infrastructure needs of the Commonwealth. Public entities can submit candidate projects at the "SMART SCALE" website, and those candidate projects are prioritized based on the benefits they would provide.

Once projects are approved by the Commonwealth Transportation Board as part of the Six-Year Improvement Program (SYIP), VDOT works diligently to ensure that the best decisions are made in regards to the procurement method for each project.

The agency is focused on the following goals:

1. **Execute the Program** - It is our job to execute the program, even with one-third of our construction projects being locally administered. High-level focus will remain on safety, delivering projects ahead of schedule and under budget, and improving infrastructure condition. We will develop strong partnerships with localities and foster open collaboration with business partners. Each partner has an important role to play and successful execution requires effort from us all.
2. **Maintain Infrastructure** - We will maintain infrastructure to a state of good repair. Significant strides have been made; preventative maintenance and rehabilitative efforts will continue, but most of the 'low hanging fruit' has been picked. As assets age beyond the reach of rehabilitation, we must work with localities, regional entities and business partners to prepare for reconstruction.
3. **Ensure a Sustainable Project Pipeline** - We will work with localities and regional partners to develop and maintain a sustainable pipeline of quality projects. This collaboration will ensure readiness for SMART SCALE and State of Good Repair (SGR) program consideration, from planning and design through construction. Successful implementation of this pipeline relies on having a stable, highly trained, and experienced workforce.
4. **Ensure Efficient Highway Operations** - We will operate our roadway network more efficiently, focusing on moving people and goods using tactics like improved signal timing. We will implement incident management, traffic management and innovative technological solutions such as using unmanned aerial systems in crash reconstruction and congestion/incident management.
5. **Develop the Workforce** - We will develop a highly trained workforce, able to meet today's objectives while being prepared to anticipate and tackle tomorrow's opportunities. Partnering with the private sector to develop staff is key to getting the right people with the right skills into the right positions.
6. **Be Transparent** - We will maintain focus on performance management, continuing to openly provide information to the public. Partners and customers should know what we are doing and why we are doing it. We will work with localities, regional entities and business partners to help them gain a better understanding of their impact on the Commonwealth's performance.
7. **Be Business Focused** - Our business focus will continue to be based on strong performance management practices and objectives, while streamlining our processes. We will establish fair and reasonable project delivery goals, while ensuring that our local and private-industry partners understand their role in success program delivery.
8. **Be Innovative** - Technology is changing the way we do business. We will be innovative, taking advantage of technological advances such as connected and autonomous vehicle technology. The transportation industry is changing and we will improve the policies, administrative practices and speed/quality of construction, maintenance and procurement program delivery.
9. **Be Safe** - Safety is not just a slogan; it is an expectation. We will work with law enforcement and communications partners to enhance traveler safety, while continuing to implement engineering and operational safety solutions. We remain committed to providing a safe working environment and will continue to foster an active workforce safety culture.

As "We Keep Virginia Moving," the Virginia Department of Transportation will do its part to ensure Virginia remains one of the best managed and best states in which to live and do business.

Information Technology

Major IT investments underway include:

- **SMART SCALE - SMART Portal Enhancements Project** -- The purpose of this project is to enhance the existing web-based application tool that was created as part of a legislatively required project prioritization process. Enhancements to the tool will allow applications to be submitted for multiple prioritization based grant programs to include Transportation Alternatives, Revenue Sharing, Highway Safety, Bike/Ped Safety, Systemic Safety Improvements, State of Good Repair, High Priority and District grant funding programs. This program is under the leadership of the Secretary of Transportation's Office of Intermodal Planning and Investment.
- **Statewide Traffic Signal System (STSS)** -- VDOT is implementing a statewide traffic signal control system for mainline and arterial congestion relief and safety management. STSS is a new comprehensive system that will improve security, increase efficiency, increase interoperability and prepare for future foundations within traffic signal control across the Commonwealth of Virginia, to include the ability to integrate directly with Connected and Automated Vehicle (CAV) and other important emerging technologies.
- **Highway Maintenance Management System (HMMS) Project** – HMMS is a comprehensive asset management solution to digitize work

orders and field inspections to better manage roadway assets. The system development started in 2016 with expected completion in 2019. The system provides the following functions:
    - Implement Asset/Inventory Management
    - Work Order Management
    - Resource Planning, Scheduling and Utilization
    - Work Planning and Budgeting
    - Mobile Application support
    - Analysis and Reporting
    - Improve integration across new and existing systems by implementing HMMS
- **CEDAR Modernization** – Legislative and organizational changes require modernization of VDOT's environmental reporting system and underlying technology. Comprehensive Environmental Data and Reporting System (CEDAR) is the flagship application used by VDOT to manage Environmental projects and regulatory compliance. Modernization efforts include major enhancements for Fish, Plant and Wildlife Resources, GIS, mobile capabilities, Facilities Compliance and M4 TMDL (Total Maximum Daily Load).
- **Digitize Bridge Inspection Reports** -- Fully digitize the Bridge Inspection Report process so that paper is no longer generated and stored. VDOT is required to retain and have the ability to retrieve all Bridge Inspection Reports for every structure, for the life of the structure, per the National Bridge Inspection Standard. Currently signed paper inspection reports are the official record.
- **MS4 Management Solution** -- Create a system of record for Municipal Separate Storm Sewer Systems reporting requirements. This project consolidates data sources, and eliminates standalone, and manual (paper) records for meeting EPA reporting requirements. The project supports VDOT's business objective to monitor compliance of VDOT's storm water management compliance and monitoring program:
    - Providing Annual MS4 report to VDEQ under our general permit
    - Submitting quarterly reports to EPA describing VDOT's oversight of its statewide MS4 program compliance.
- **Snow Operations Technology Modernization and Advanced Data Analytics** —VDOT has a robust Snow Operations suite of technologies that support maintenance, operations, public communications and customer support functions. This project seeks to enable more efficient functions through process improvements enabled by modern technology for statewide use. VDOT would also like to optimize the use of advanced data analytics capabilities using automated vehicle location (AVL) and sensor technologies to better manage operations.
- **VDOT SmarterRoads Enhancement** -- This project will enhance the underlying technology to address data latency issues, improve security, and consolidate or redirect multiple stand-alone data portals. This is set up to promote Virginia's efforts toward connected and autonomous vehicle initiative. SmarterRoads provides raw data for research and development, third party application developers, vehicle manufacturers and even Citizen scientists.
- **VDOT Fiber Optic Program** – VDOT has significant investment in fiber optics within its Right of Ways. These resources are currently being used to support VDOT Operations Technology (cameras, message signs and operation centers.) Efforts are underway to strategically expand its usage for VDOT and Commonwealth broadband needs.

Information Technology Plans/Needs

- **Road Network System (RNS) Improvements** -- Over time the amount of information managed within the Linear Referencing System at VDOT, known as RNS, has grown while the level of investment and the current state of the solution (both business processes and technology) have become inadequate. Challenges include near constant data integrity problems, slow or no response to enhancement requests, and little or no capability to handle additional data types within the system. In order to support the continued and growing need for managing current and future roadway data, a future implementation plan for processes and technology is needed.
- **Agency e-Authorization and Document Management Solution** -- There are needs from business units across VDOT to streamline and improve document management. For example, a holistic solution is needed to reduce paper, manual processes, and duplicate approvals associated with financial business processes. Business process re-engineering and technology are both required to meet this need. The technical solution will leverage standardized tools and platforms approved for document management at VDOT.
- **AASHTOWare Construction and Materials Implementation Project** -- AASHTOWare Project's Construction and Materials module has the capability to support both division's processes and future integration between Materials and Construction technology. This project will replace the existing Site Manager solution for Construction; and will require significant configuration effort.
- **E-Construction Initiatives** – VDOT is exploring technologies to automate processes, foster online collaboration and digitize paper documentation. Efforts include the digitization of construction inspections, the automation of the bid letting process, and the digital storage of construction documentation.
- **Transition to Cloud Infrastructure** – With the new multi supplier model being deployed by VITA, the Commonwealth will have access to a wider array of cloud technology options. VDOT intends to fully leverage cloud technologies to drive cost efficiency and improve system reliability and security.

Workforce Development

As of July 1, 2019, the department was authorized a maximum classified employment level of 7,735 and employed 7,381 classified staff for a calculated vacancy rate of 4.6%. The VDOT workforce is further supplemented by about 600 wage and emergency operations workers.

With the dynamic nature of the transportation industry, VDOT must be ready and equipped to deliver on ever-changing work and workforce needs. Attrition due to retirements and other separations results in annualized turnover of approximately 9.0% (fiscal year 2019) which has the potential to create gaps in skills needed for essential positions over the next five years. Developments in technology and data analytics, as well as heightened customer and community expectations, require new skills and increased adaptability across the agency. VDOT's objective is to continuously develop essential competencies and capabilities within a sustainable transportation talent pipeline.

To prepare the "workforce of the future" while delivering today's transportation programs, the agency embraces a systematic approach which

strives to prioritize employee development programs based on agency needs while making learning accessible, timely and relevant to the developmental needs of our workforce. A mix of programs and services are available, including career coaching, instructor-led training and online courses through the agency's learning management system. To optimize efficiencies and maximize impact, VDOT is also expanding its network of learning delivery channels, including working with community colleges and private sector partners. In 2017, VDOT established a Transportation Workforce Success Board to ensure that the agency considers business demands and makes the decisions required for optimization and prioritization of workforce programs.

Technical programs continue to be delivered and expanded, with sustained commitment to keep all required licenses and certifications up-to-date. Additional efforts include the re-introduction of behavioral competency models and evolving current programs to meet the needs of the current and future workforce. VDOT further relies on several Leadership, Pipeline, Apprentice and Intern programs designed to help deliver future organizational capabilities and has renewed its succession planning efforts, to identify and map talent to meet agency needs now and into the future. Through engaged employees committed to continuous learning and collaborative internal and external partnerships, VDOT is poised to grow the collective capability of the transportation workforce and help ensure we serve the community in a safe and successful manner for years to come.

Physical Plant

In addition to the capital investments that the department manages for the highway network, the agency must ensure that its 2,700 facilities in over 350 statewide work locations are safe and adequate for VDOT employee and contractor use. Many of these facilities are over 50 years old and all of them must be maintained to ensure functionality to meet operational demands as well as assessed and evaluated as part of for long-term planning to meet future needs. As part of its business planning, the department pursues new capital outlay and maintenance reserve projects identified through the Capital Outlay Six Year Planning process.

For the 2018-20 biennium, $10 million was made available for FY 2019 and $30 million will be available for FY 2020. Seven projects are currently under construction, one is scheduled to begin construction this FY and nine projects are scheduled to begin construction in FY 2020. Seventy-four new capital projects have been identified through the Department's last Capital Outlay Six Year Planning process.

Updates to the Capital Outlay Six Year Plan will be completed in FY 2019 and will include major capital improvement projects needed for the Central Office Complex in Richmond in addition to district operations facilities. Specifically, the Annex Building in Richmond is 196,000 square feet, 57 years old and requires extensive renovation or replacement to address critical, time sensitive needs. The building operates with many of the original mechanical systems, electrical, plumbing and structural components including the roof and windows still in place. The electrical and communications systems infrastructure (wiring, ductwork, and data network) are outdated and largely unsuited to the demands of the current business environment. Modernization and energy efficiency are also important. Options under consideration are a new building or total gutting and renovation of existing building.

The need for preventative maintenance and replacement of facilities statewide will continue as buildings exceed their useful life and/or problems arise. As part of long-term facility planning efforts, the Department is in year three (3) of a five (5) year cycle to assess facilities conditions for safety/building code, structural/exterior, mechanical systems, and interior components. Maintenance, repair, and replacement needs are identified, prioritized and programmed as funding is available. New facilities and/or renovations of existing facilities will ensure efficiency and effectiveness of program operations.